



United States Department of Commerce National Oceanic and Atmospheric Administration

January 2005

Meeting Our Nation's Economic, Social, & Environmental Needs

"NOAA is where science gains value," says NOAA Administrator Conrad Lautenbacher. "Americans rely on NOAA for an incredible variety of products: providing local weather forecasts, keeping coastal waters safe and vibrant, maintaining a sustainable supply of quality seafood, ensuring the safe transport of waterborne cargo, as well as keeping a close eye on the ever changing impact of our sun on space weather." We all wish to live safely and responsibly within the natural systems of the Earth. NOAA fulfills this need, forever [meeting challenges](#), [creating solutions](#), and [producing results](#).

What is NOAA?

NOAA is a federal agency focused on the condition of the oceans and the atmosphere. It plays several distinct roles within the Department of Commerce:

A Supplier of Environmental Information Products. One of the most important resources in our society is information. NOAA supplies information to its customers that pertains to the state of the oceans and the atmosphere. This is clearly manifest in the production of weather warnings and forecasts through the National Weather Service, but NOAA's information products extend to climate, ecosystems, and commerce as well.

A Provider of Environmental Stewardship Services. NOAA is also the steward of national coastal and marine environments. In coordination with federal, state, local, tribal, and international authorities, NOAA manages the use of these environments, regulating fisheries and marine sanctuaries as well as protecting threatened and endangered marine species.

A Leader in Applied Scientific Research. NOAA is a trusted source of accurate and objective scientific information in four particular areas of national and global importance:

Ecosystems: Ensure the sustainable use of resources and balance competing uses of coastal and marine ecosystems, recognizing both their human and natural components.

Climate: Understand changes in climate, including the El Niño phenomenon, to ensure that we can plan and respond properly.

Weather & Water: Provide data and forecasts for weather and water cycle events, including storms, droughts, and floods.

Commerce & Transportation: Provide weather, climate, and ecosystem information to make sure individual and commercial transportation is safe, efficient, and environmentally sound.

NOAA's Vision

"An informed society that uses a comprehensive understanding of the role of the oceans, coasts, and atmosphere in the global ecosystem to make the best social and economic decisions"

NOAA's Mission

"To understand and predict changes in the Earth's environment and conserve and manage coastal and marine resources to meet our nation's economic, social, and environmental needs"



Meeting Challenges

Economic development is a necessary component of our nation's promise, but it does not make us immune to forces of nature. Many of the opportunities that we, as individuals and as a society, take to improve our quality of life are also accompanied by increased sensitivity to the natural world. The further we progress, the more we have to gain and lose from the environment, the larger our responsibilities are, and thus the greater NOAA's role becomes. It is essential that we understand the challenges that we face as part of the Earth system in order to create appropriate solutions.

Our Natural Context

No matter how successful our economy or how advanced our technology, society is inseparable from the natural systems of the Earth. We tend to be occupied with problems of human origin, but consider the effects of the following natural events:

Hurricanes. Every year more Americans choose to live in coastal regions, amplifying the national risks and costs associated with hurricanes, both in terms of destruction as well as mitigation.

Drought. Expanding communities in the west put greater stress on already limited aquifers, thus making more Americans sensitive to drought conditions.

Overfishing. Presently, more than one-third of the fish stocks studied by NOAA are overfished when compared to the abundance levels that would be necessary for long-term sustainability.

Everyday Weather. Heat, rain, and other day-to-day weather conditions affect decisions in nearly every segment of society, from what clothes you wear today to what price a trader plans to pay for grain on the commodities market tomorrow.

Climate Change. Changes in global and local climates have real socioeconomic consequences and will require responses that are neither trivial, temporary, nor avoidable.

Tsunamis. The December 2004 tragedy in the Indian Ocean demonstrated how massive tidal waves caused by undersea earthquakes can take hundreds of thousands of lives, destroy communities, and alter landscapes.

Fundamental Activities

With these and other challenges in mind, NOAA conducts an end-to-end sequence of activities, beginning with scientific discovery and resulting in a number of critical environmental services and products. The Earth's natural systems – on land, in the sea, in the atmosphere, and even extending into space – all change over time and interact with one another. In order to understand these systems and meet the challenges they present, NOAA assumes certain responsibilities:

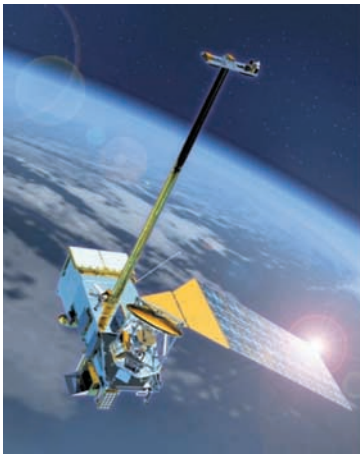
Monitor and observe Earth systems with instruments and data collection networks.

Understand and describe Earth systems through research and analysis of that data.

Assess and predict the changes of these systems over time.

Engage, advise, and inform the public and partner organizations with important information.

Manage resources for the betterment of society, economy and environment.



Creating Solutions

NOAA is an agency composed of the world's leading experts in Earth science, equipped with the world's most advanced technology for environmental observation and prediction, and supported by a world-class management and administrative workforce. Thousands of people serve at facilities across the country and aboard ships and airplanes across the globe. NOAA satellites and computers yield a torrent of valuable data around the clock. Within its task to meet the nation's economic, social, and environmental needs, NOAA must establish priorities and adopt strategies that allow it to use of the capacities it has at hand as effectively as possible. It must optimize its resources in order to maximize payoff to the user community and the nation at large.

Strategies for Success

Strategic planning is central to NOAA in performing its Mission and achieving its Vision. Essential components of the strategies of each Mission Goal, as well as Mission Support, include:

Ecosystems: To promote management of coastal and marine ecosystems, to balance competing uses, and to ensure the sustainable use of resources, NOAA shall conduct analyses of ecosystems that employ the best available technology for observation and predictive modeling.

Climate: Decisions about mitigating the effects of climate change, adapting to it, or possibly even altering its rate of progress all begin with greater understanding of this global phenomenon. Through extensive research, public outreach, and international partnerships, NOAA shall increase understanding of climate change by providing unbiased information about its causes and consequences.

Weather & Water: For public, private, and global benefit, NOAA shall provide quality now-casts and forecasts of weather and water events while also improving the lead-time, reliability, utility, and delivery of this information to the end user.

Commerce & Transportation: NOAA shall foster the safe, efficient, and environmentally sound transport of goods and people by using the most advanced techniques for monitoring and predicting conditions on land, sea, and in the air, as well as providing critical environmental information for accurate navigation.

Mission Support: To meet current and future needs of society, NOAA shall develop relationships of mutual understanding with its customers and partners domestically and abroad, recognize the potential of new and existing technologies, and guide the transition of capabilities from research through to operations.

Agency-Wide Priorities

In creating environmental information and stewardship solutions for our nation, NOAA gives special attention to five activities that must take place within and across every office and within each of NOAA's mission goals. Woven into the fabric of the NOAA community are five priorities:

Develop, value, and sustain a world-class workforce.

Integrate global environmental observations and data management.

Ensure sound, state-of-the-art research.

Promote environmental literacy.

Exercise international leadership.



Producing Results

NOAA supplies valuable products and services that are used everyday in households throughout the nation, in sectors such as agriculture and energy, in government agencies such as the Department of Homeland Security and the Environmental Protection Agency, and in environmental and meteorological institutions around the world. NOAA takes great effort to ensure that these stakeholders' needs are met and that the suite of products and services that it offers continues to improve in quality and social value.

Performance Objectives

To determine its own performance and improve its services, NOAA must compare the results of its programs with objectives it sets for itself. Some examples of specific objectives of NOAA Mission Goals are to improve the following:

- Public knowledge and stewardship of marine and coastal ecosystems
- Availability and use of climate products and services to enhance public and private sector decision-making
- Lead time and accuracy of weather and water warnings
- Avoidance of weather-related transportation crashes and delays
- Quantity, quality, and accuracy of satellite data that are processed and distributed within targeted time

Measurable Benefits

NOAA benefits society in innumerable ways; many of these have been clearly identified and more still remain. NOAA is increasing its capacity to qualify and, where possible, quantify the social impacts of its programs – both relative to their costs and to each other. Rigorous measurement and analysis will facilitate informed decision-making within NOAA and create value for end users. Benefits include:

Ecosystems: Non-market recreational benefits to Florida's coastal communities from coral reefs are [\\$312 million per year](#) while the reefs' asset value is estimated at [\\$10.4 billion](#). The reefs of Hawai'i and beaches of Southern California both have similar values.

Climate: Reducing climate-related uncertainties in climate policy decision-making can be worth more than [\\$100 billion](#) for the United States alone, and relatively small increases in accuracy can yield substantial dividends.

Weather & Water: For households alone, the value of all weather information is 4.4 times the federal spending required to produce it, yielding a net national benefit of [\\$8.8 billion per year](#). The value to households of improved accuracy, detail, and frequency of forecasts is [\\$1.7 billion per year](#).

Commerce & Transportation: The value of better coastal information and services has been estimated at greater than [\\$600 million per year](#) in terms of reduced risk of accidents, search and rescue, commercial fishing, and recreational boating.

Mission Support: Preliminary estimates of the potential national benefits from an improved coastal ocean observing system are nearly [\\$700 million per year](#), stemming from applications in beach recreation, maritime commerce, search and rescue activities, and coastal hazards mitigation.



United States Department of Commerce
National Oceanic and Atmospheric Administration

For further information, please contact the NOAA Office of Program Planning and Integration: 301.713.1632